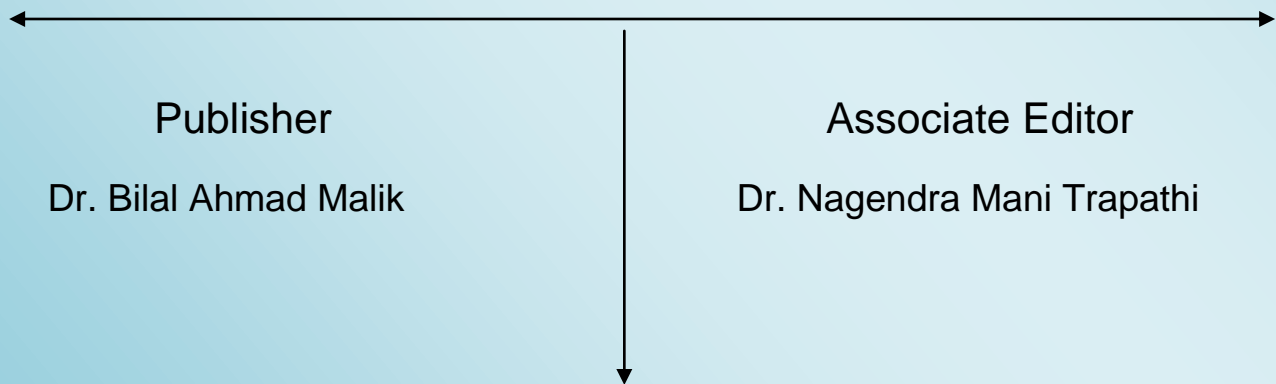


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**ISSN NO: 2454 - 9827**

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## ANALYSIS OF SEX RATIO IN SPATIO-TEMPORAL SCALE: A CASE STUDY ON BANKURA DISTRICT, WB, INDIA

**AMBORISH DAS\***

\*Research Scholar, Dept. of Geography, Visva Bharati, Santiniketan, Birbhum, WB, India

**DR. G.C. DEBNATH\*\***

\*\*Associate Professor, Dept. of Geography, Visva Bharati, Santiniketan, Birbhum, WB, India

### **ABSTRACT:**

*Census of India 1991 defined Sex ratio as the number of female population per one thousand male populations. Sex ratio varies with time as well as space. There are several socio-economic as well as physical factors are responsible for these variations. It is an important social indicator to measure the extent of prevailing equity between males and females at a given point of time (Phule and Maske, 2013). Sex ratio is an important tool for assessing socio-economic status of a geographical area. This study is based on the secondary data collected from different sources and census reports of Bankura district. The main objective of this paper is to visualize the spatio-temporal characteristics of sex ratio in Bankura district.*

**Key Words:** Sex ratio, sex composition, Male female population, Bankura.

### **INTRODUCTION:**

Census of India 1991 defined Sex ratio as the number of female population per one thousand male populations. Sex ratio varies with time as well as space. There are several socio-economic as well as physical factors are responsible for these variations. Sex ratio is one of the social indicators which depict the status of women (Kumar & Devi, 2013). It is also an important social indicator to measure the extent of prevailing equity between males and females at a given point of time (Phule and Maske, 2013). Many socio-economic relationships intimately related to the balance or disparity between the number of males and females (Trewartha, 1969). So it is an important parameter to understanding socio-economic status of a geographical area in a given time period. Here we made a case study on Bankura district which is one of the prosperous district in WB in terms of historical as well as cultural back ground.

**OBJECTIVES:**

The present study is based on following specific objectives –

- I. To assess the trends of sex ratio in Bankura districts from 1951 to 2011.
- II. To analyses the CD Block wise distribution of sex ratio in Bankura District of 2011.

**STUDY AREA:**

Bankura district is a quite large district in W.B. occupying 688100 hectares of geographical area. It is the westernmost district in Bardhaman Division (O'Malley, 1995) of the State and included in the area which known as "Rarh" in Bengal. The district has been described as the "connecting link between the Plains of Bengal on the east and Chota Nagpur Plateau on the west." (O'Malley, 1995) . The District Bankura is bounded by latitude  $22^{\circ}38'$  - $23^{\circ}38'$ N and longitude  $86^{\circ}36'$  E to  $87^{\circ}47'$  E. and the district is surrounded by Bardhaman in the north, Puruliya in the west, Paschim Medinipur in the south and Hugly in the south-east. Along the northern boundary of the district the River Demodar is flowing. Another important rivers are Dwarkeswar, the Kasai, Silai, Sali etc. The Survey of India (SOI) toposheets covering the districts are 73I, 73J, 73M and 73N (Fig.-1).

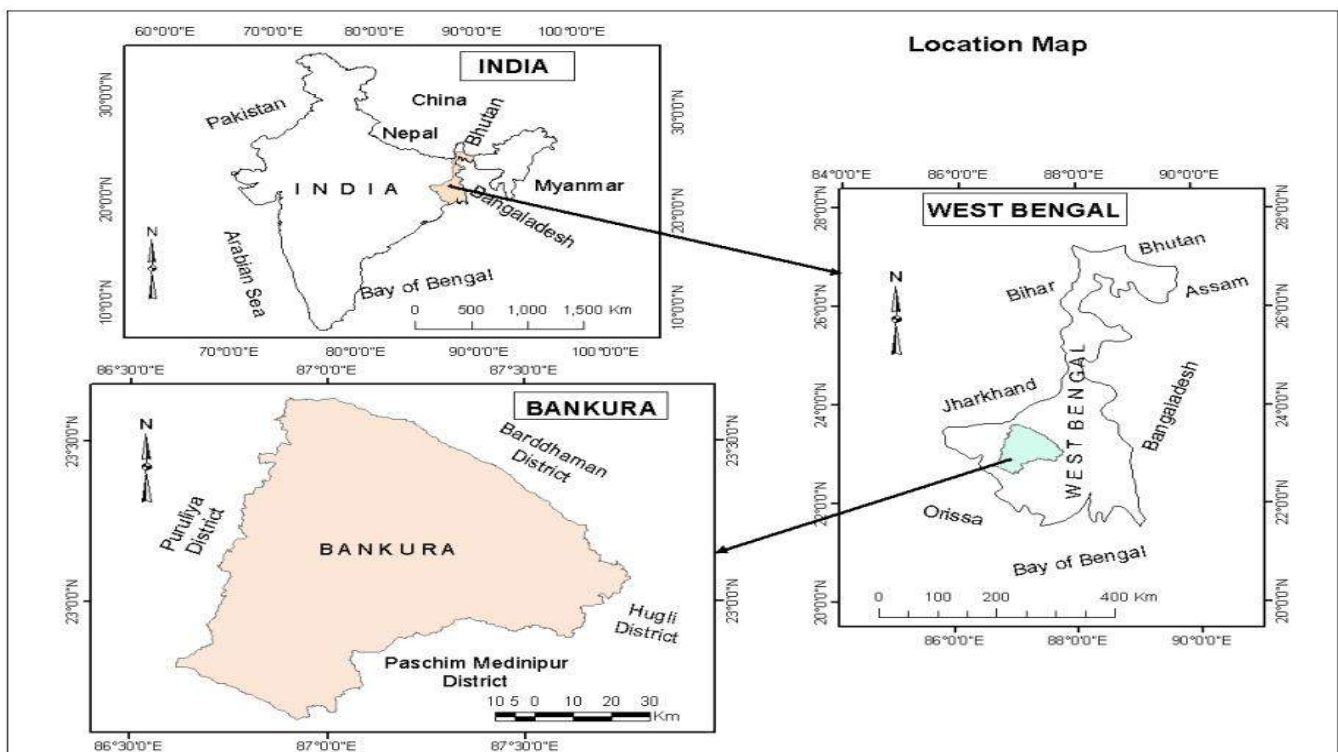


Figure-1: Location Map of Study Area

**DATA BASE AND METHODS:**

The work is entirely based on secondary data obtained from secondary sources, namely District Census of Bankura (2011) downloaded from Census of India's official website, District statistical Handbook of Bankura District (2011 and 2013) of Bureau of Applied Economic and statistics, District Gazetteer of Bankura District and many others literature and research papers. Data are organize and tabulated in proper way then some general cartographic techniques are adopted to represent the data. All the work has been done in MS Excel and GIS software.

**RESULT AND DISCUSSION:**

According to Census of India (1991) sex ratio is calculated by accounting the number of female per one thousand male. The mathematical expression is following-

$$\text{Sex Ratio} = (\text{female population}/\text{male population}) * 1000$$

**Table-1: Sex Ratio of Bankura district, 1951-2011**

| <b>Year</b> | <b>No. Female per 1000 male</b> |
|-------------|---------------------------------|
| 1951        | 982                             |
| 1961        | 981                             |
| 1971        | 959                             |
| 1981        | 965                             |
| 1991        | 952                             |
| 2001        | 952                             |
| 2011        | 957                             |

**Source:** District statistical Handbook, Bankura (2013)

Table -1 is representing the decadal change of sex ratio in Bankura district from 1951 to 2011 and figure-2 is the graphical representation of table-1.

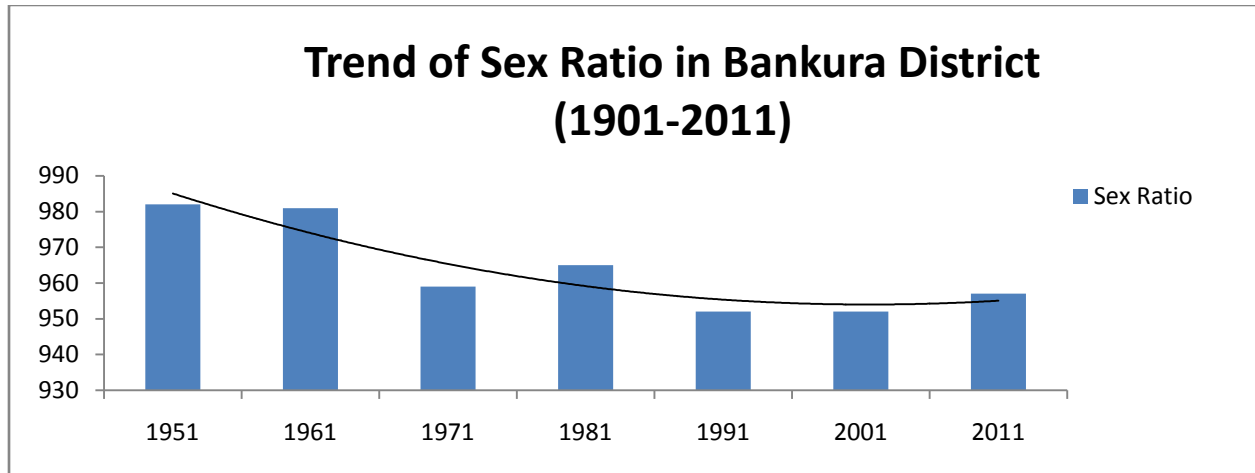


Figure-2: Trend of Sex Ratio in Bankura District (1901-2011)

In the figure-2 the bar showing the sex ratio of concerning years where as the black line represents the trend or changing pattern of sex ratio in Bankura district.

Sex ratio was highest in the year of 1951 i.e. 982 female per 1000 male but with time it started falling up to 2001 (952 female/1000 male). It has been seen that sex ratio increase from 952 to 957 female/1000 male in 2011. The trend is also clear from the figure-2.

Table-2: Sex Ratio of Different CD Block in Bankura District, 2011

| Sl. No. | Name of C.D.Block | No of Female per 1000 Male | Sl. No. | Name of C.D.Block | No of Female per 1000 Male |
|---------|-------------------|----------------------------|---------|-------------------|----------------------------|
| 1       | Saltora           | 951                        | 12      | Joypur            | 959                        |
| 2       | Mejia             | 934                        | 13      | Patrasayer        | 967                        |
| 3       | Barjora           | 948                        | 14      | Kotulpur          | 959                        |
| 4       | Gangajalghati     | 941                        | 15      | Hirbandh          | 954                        |
| 5       | Chhatna           | 960                        | 16      | Ranibandh         | 976                        |
| 6       | Bankura-I         | 956                        | 17      | Raipur            | 963                        |
| 7       | Bankura-II        | 949                        | 18      | Simlapal          | 960                        |
| 8       | Onda              | 958                        | 19      | Taldangra         | 972                        |
| 9       | Sonamukhi         | 945                        | 20      | Indus             | 959                        |
| 10      | Indpur            | 944                        | 21      | Khatra            | 949                        |
| 11      | Bishnupur         | 962                        | 22      | Sarenga           | 972                        |

Source: District statistical Handbook, Bankura District (2011)

Table-2 represents CD Block wise sex ratio of Bankura district (2011). Highest sex ratio has been seen in Ranibandh CD Block that is 976 female per 1000 male following Taldanra, Sarega, Patrasayar , Raipur, Bishnupur , Chatna, Simlapal etc. The lowest sex ratio is in Mejia CD Block that is 934 female per 1000 male.

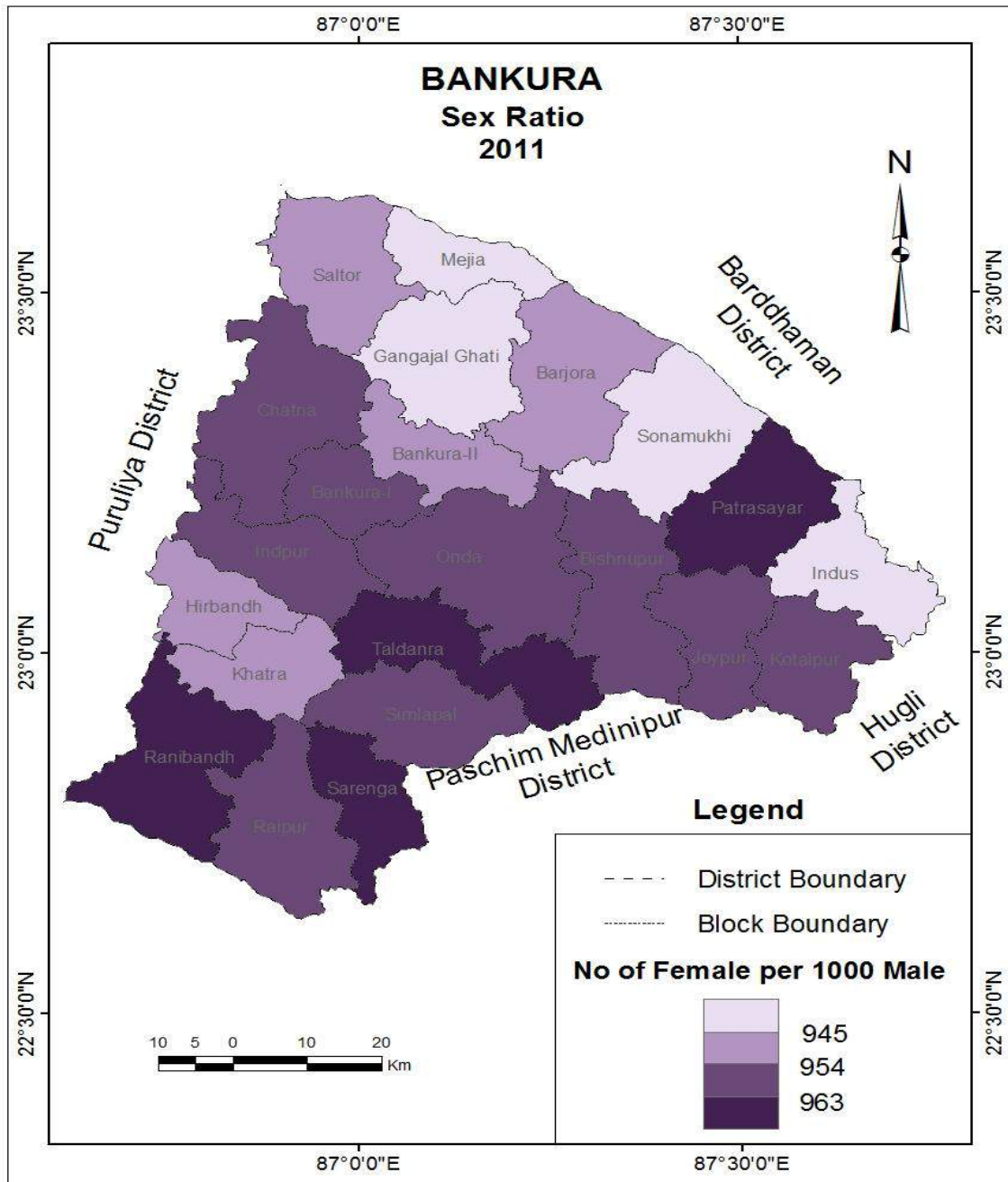


Figure-3 Spatial Distribution of Sex Ratio in Bankura district, 2011.

**Table-3: Spatial Distribution of Sex Ratio in Bankura district, 2011.**

| Category | No. of female/1000 male | No. of CD Block | Name of the CD Block  |
|----------|-------------------------|-----------------|---|
| Very Low | Less than 945           | 4               | Mejia, Gangajalghati, Sonamukhi, Indus  |
| Low      | 945-954                 | 5               | Saltora, Bankura-II, Barjora, Hirbandh, Khatra                                  |
| Moderate | 954-963                 | 9               | Chhatna, Bankura-I, Indpur, Onda, Bishnupur, Joypur, Kotulpur, Simlapal, Raipur |
| High     | greater than 963        | 4               | Patrasayer, Taldangra, Sarenga, Ranibandh                                       |

Figure-3 and table-3 is showing the spatial distribution of sex ratio in Bankura district, 2011. There are four categories has been done namely high, moderate, low and very low (Table-3). High sex ratio (greater than 963 female per 1000 male) is observed in four CD Block namely Patrasayer, Taldangra, Sarenga, Ranibandh. Maximum number of CD blocks having moderate sex ratio. These are Chhatna, Bankura-I, Indpur, Onda, Bishnupur, Joypur, Kotulpur, Simlapal and Raipur. Low sex ratio found in five CD Block those are Saltora, Bankura-II, Barjora, Hirbandh and Khatra. Remaining four CD Block, namely Mejia, Gangajalghati, Sonamukhi and Indus having very low sex ratio that is less than 945 female per thousand male.

### CONCLUSION:

Simply sex ratio is the ratio between men and women living in a geographical region. In the field of geographical study this is very important to analysis the region wise sex ratio that is the distribution of both male and female population. It is helpful tool for understanding about regional development as well as regional disparity.

From this study a trend is identified, from 1951 to 2001 trend of sex ratio was decreasing in nature but the hopeful picture is that it increased in last ten years. On the other hand mainly Northern CD Blocks found very low sex ratio in relation to the other part of the district. Although sex ratio started increasing, in 2011 it is 957 female per 1000 male but till now it does not reached in destination. More research and more attention are needed here for achieving the goal.



**ACKNOWLEDGEMENT:**

The author gratefully acknowledge Prof. (Dr.) Vibhas Chandra Jha, principal, Vidya Bhavana, Visva Bharati, Santiniketan & Ex. Director of NATMO, Kolkata (Dept. of Science And Technology, Govt. of India) and Dr. Prolay Mondal Assistant professor of Department of Geography, Raiganj University, Uttar Dinajpur are greatly appreciated.

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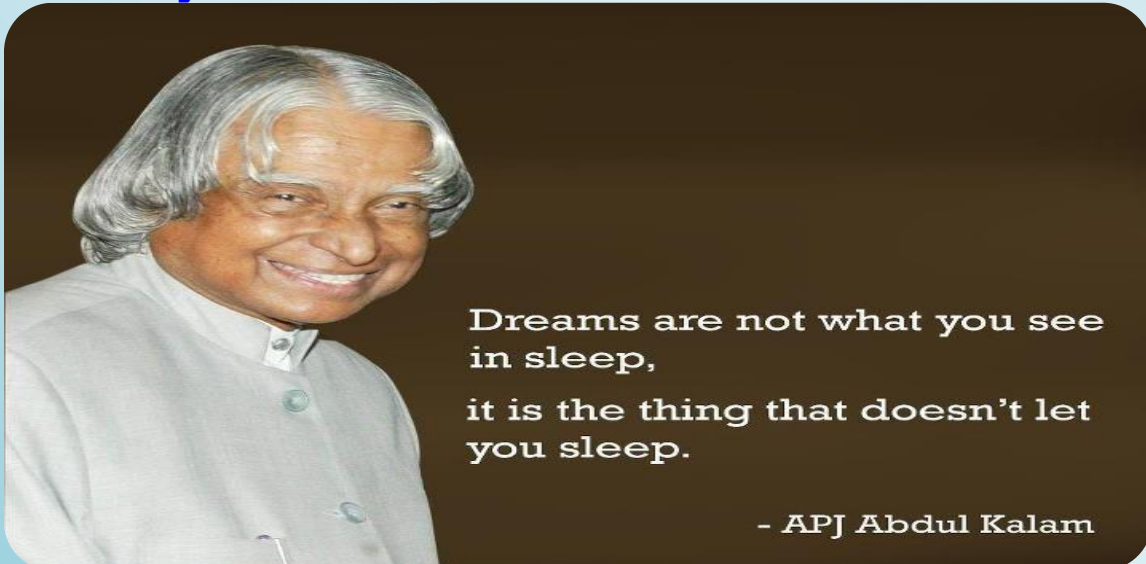
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**Cell: 09086405302, 09906662570,**

**Ph No: 01933212815**

**Email: [nairjc5@gmail.com](mailto:nairjc5@gmail.com), [nairjc@nairjc.com](mailto:nairjc@nairjc.com), [info@nairjc.com](mailto:info@nairjc.com)**

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Dreams are not what you see  
in sleep,  
it is the thing that doesn't let  
you sleep.

- APJ Abdul Kalam